



M 8284

Reg. No. :

Name :

VI Semester B.Sc. Degree (CCSS – Reg./Supple./Improv.)
Examination, May 2015
CORE COURSE IN BOTANY/PLANT SCIENCE
6B13 BOT/PLS : Evolution, Bioinformatics, Paleontology and Plant
Breeding
(2012 Admn.)

Time : 3 Hours

Total Weightage : 30

SECTION – A

Answer **all** (Questions in bunches of **four** : **Each** bunch carries a weightage of **1**)

1. Choose the correct answer :

- i) A fossil Bryophyte
 - a) Rhynia
 - b) Lepidodendron
 - c) Lepidocarpon
 - d) Naidita
- ii) Mechanism to promote cross pollination
 - a) Unisexuality
 - b) Dichogamy
 - c) Male sterility
 - d) All of these
- iii) Rise of reptiles and insects was in
 - a) Coenozoic era
 - b) Mesozoic era
 - c) Paleozoic era
 - d) Archeozoic
- iv) Oldest and largest center of origin of cultivated crops
 - a) The China center of origin
 - b) The central Asia
 - c) Persian center
 - d) Mediterranean center

2. Write **true** or **false** :

- i) Segregation of population into small units can cause speciation.
- ii) Aim of NCBI is to prevent creation of public databases.
- iii) Main aim of plant breeding is to improve the height of plants
- iv) Petrified fossils show nearly exact external form.

P.T.O.



3. Fill in the blanks :

- i) Structures present in the body in reduced condition with no function is called _____
- ii) Region having species with maximum diversity of forms were termed as _____
- iii) _____ is a protein sequence database.
- iv) Theory of acquired characters was proposed by _____

4. Match the following :

A	B	C
i) Darwinism	Tertiary period	To prevent spreading of diseases
ii) Coenozoic	Removal of anthers	To make bisexual flower into female flower
iii) Quarantine	Theory of Natural selection	Modern flowering plants
iv) Emasculation	Keep materials in isolation	Survival of fittest

5. Answer in **one** sentence :

- i) Paleopalynology
- ii) Polygenic inheritance
- iii) Polyploidy breeding
- iv) BLAST.

(5×1=5)

SECTION – B

Answer **any four** (Differentiate the following : **Each** question carries a weightage of 1)

6. Progressive and retrogressive evolution
7. EMBL and DDBJ
8. Macro and micro evolution
9. Proteomics and Metabolomics
10. Speciation and Genetic variation
11. Mutation and migration.

(4×1=4)



SECTION – C

Answer **any five** (Short answer question : **Each** question carries a weightage of 1)

12. What is PHYLIP ?
13. Explain cladistics.
14. What is genetic drift ?
15. Name two fossil pteridophytes.
16. What is Neodarwinism ?
17. What is genetic polymorphism ?
18. Explain microarrays.

(5×1=5)

SECTION – D

Answer **any six** (Short answer question : **Each** question carries a weightage of 2)

19. Explain geological time scale.
20. Write about objectives of plant breeding.
21. Give an account of industrial melanism.
22. Write about functional genomics.
23. Write about multiple sequence alignment.
24. Give an account on types of fossils.
25. What is meant by plant introduction ?
26. Explain Hardy Weinberg Law.

(6×2=12)

SECTION – E

Answer **any one** (Essay type question : **Each** question carries a weightage of 4)

27. Explain hybridization and heterosis. Give the significance.
28. What is Bioinformatics ? Write about major nucleotide and protein sequence database.
29. Explain theories of evolution by Darwin and Lamarck.

(1×4=4)